



**NEUROLOGY (SURVIVAL)**  
**ISCHEMIC STROKE**

In New Normal 2022

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## Mimics

- Hyperglycemia
- Post-ictal
- Migraine with Aura etc.

# Stroke

## Abrupt onset

### Hemorrhage

- Headache
- N/V
- Rapid onset of Alteration of Consciousness
- Extreme High Blood Pressure

### Ischemia

- Clinical of Neurological deficit compatible with Neurovascular Syndrome

# Stroke Syndromes

## 01 Total Anterior Circulation Infarcts (TACI)

Combination of

- Higher cerebral dysfunction (Cortical Dysfunction)
  - Aphasia
  - Eye deviate/Gaze preference etc.
- Homonymous visual field defect
- Ipsilateral Motor and/or Sensory deficit
  - At least two areas; face, arm and leg

CONSCIOUS DROP

## 02 Partial Anterior Circulation (PACI)

Only 2 of 3 components of a TACI

- or Higher cerebral dysfunction alone
- Motor/Sensory deficit more restricted than those classified as Lacunar infarctions
  - Confined to one limb

# Stroke Syndromes

## 03 Posterior Circulation Infarcts (POCI)

- Ipsilateral cranial nerve palsy **with** Contralateral motor/sensory deficit
- Bilateral motor and/or sensory deficit
- Disorder of conjugate eye movement
- Cerebellar dysfunction
- Isolated homonymous visual field defect

**Alteration of consciousness is quite common**

## 04 Lacunar Infarcts (LACI)

5 Syndromes

- A pure motor
- A pure sensory
- A sensori-motor
- An ataxic hemiparesis
- A dysarthria-clumsy hand

# Acute Management

## Thrombolytic Agents

- Within 4-4.5 hrs after onset
- NIHSS between 4-25
- No Absolute contraindications
- **Informs and Consents**



NIHSS  
improved <

6

**Thrombectomy !**

## Control Blood Pressure

- rtPA
  - Pre: Keep  $\leq$  185/110 mmHg
  - Post: Keep  $\leq$  180/105 mmHg
- Non-rtPA
  - Keep  $\leq$  220/120 mmHg

## Hydration

- Evaluate Volume status
- Any U/D or Hx associated with CHF
  - CAD, Cardiomyopathy
  - CKD

## Under Lying Diseases

- Blood Sugar : Monitor blood sugar
  - BPH : Retained Foley
  - Alcoholism : Withdrawal
- etc.

# TOAST Classifications

## Subtypes of Ischemic Stroke

### ***Large Artery Atherosclerosis***

- Extracranial/Intracranial disease

### ***Cardioembolism***

- Maximum at onset
- Higher/Lower risk of cardiac lesion

### ***Small Artery Occlusion***

- Lacunar syndrome
- Long standing hypertension

### ***Other determined cause***

- Non-atherosclerotic Vasculopathies
- Prothrombotic disorders

### ***Undetermined Causes***

- Cryptogenics  
(After everything has been evaluated)

# Antiplatelet

## 01

### ASA

#### ASA(300)

- Acute + Large vessel not suspicious
- Acute Lacunar syndrome

#### ASA (81)

- Acute + Suspicious of Large vessels

## 02

### DAPTs

- CHANCE Trial
  - NIHSS  $\leq 3$
  - ABCD2 score  $\geq 4$
- **ASA(81) 1 tab + Plavix (75) 4 tabs**

# Anticoagulants

Etiology of Cardioembolic cause: Valvular, Non valvular

## 01

### Warfarin

Keep INR 2-3

## 02

### NOACs

# Monitoring in Acute Phase



## Consciousness (GCS) and Orientations

- Progressive ischemic stroke
- Hemorrhagic transformation
- Delirium, Alcohol withdrawal



## Blood Pressure

- Sudden BP shoot : Compared to baseline
- Persistent hypertension



## Body Temperature

- New onset of fever
  - Infections: Aspirate pneumonia, UTI
  - Inflammation: Arthritis



## Intake/Output

- Polyurea: Heavy hydration
- Short urine: Obstructive uropathy

## Cushing's Triads

- Hypertension
- Bradycardia
- Bradypnea



# Early Clinical Deteriorations

1

## **Progressive Stroke**

- Collateral Failure
  - U/D DM
  - Decrease cardiac output
  - Decline in systemic blood pressure
  - Hypovolemia
- Thrombosis of stenotic artery

2

## **Early Recurrent Stroke**

- Re embolization of clot
- Re thrombosis of recanalized artery

4

## **Hemorrhagic Transformation**

- Post rtPA
  - Reversal agent
- FFP 10-12ml/kg
- Cryoprecipitate 10 units
- Recanalization
  - Achieved: SBP < 140 mmHg
  - Not Achieved: SBP < 160 mmHg

3

## **Cerebral edema**

- Fulminant course over 24-36hrs
- Hypertonic solutions
  - 20% Mannitol Solutions
  - Hypoertonic Saline : 3-23.4%
  - Glycerol

5

## **Seizure**

- Not recommend AEDs prophylaxis

# Risk Factors Management

- Blood Pressure
  - <130/80 mmHg
- HbA1C < 7.0
- LDL < 100 md/dl
- BMI < 25–28 Kg/m<sup>2</sup>
- Physical activity
  - Moderate intensity
  - 40min for 3–4 sessions
- Smoking cessations

## Cardioembolic Stroke

- Paroxysmal, persistent AF
  - CHA2DS2-VASc Score
    - Male >2
    - Female >3
- Acute MI with LV thrombus
- Cardiomyopathy with Thrombus  
**“Keep INR 2–3”**
- Rheumatic mitral valve with Mechanical valve  
**“Keep INR 2.5–3.5”**

**HAS-BLED score > 3 consider NOACs**